DFU 1000

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1. Introduction - Overview

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The Dry Filter Unit (DFU) is a one man portable environmental air sampling system designed to be used with hand held assays (HHAs) and confirmatory laboratories to provide a "Detect to Treat" capability. It is a Non-Developmental Item (NDI) procured by the Joint Program Executive Office for Chem/Bio Defense (JPEO-CBD) to provide an interim biological detection capability for the military and other federal agencies. It was first deployed on a "push" basis due to urgent need during Iraqi Freedom. The DFU/HHA may be employed for periodic environmental sampling to detect covert releases or to collect air samples from a suspected incident scene.

Operation of the DFU requires at least two other consumable components: HHAs and the DFU kit. Other consumables have been provided as necessary. More detail is provided in the following section.

The DFU system is currently used on ships, at shore facilities, medical facilities, construction sites, and in special applications employing explosive ordnance disposal (EOD) personnel. The portability of the DFU system enables it to be used for both external and/or internal air sampling. It may be portable, fixed or installed within ship and building ventilation systems. Although other models exist, the Navy uses only the DFU 1000.

a. References

- 1) CFFC letter on Nuclear, Biological and Chemical Defense Requirement for Navy Bases and Facilities (ser N802/C024) dated 24 Jul 2001.
- 2) Joint Staff Memorandum dated 17 Dec 2002, Validation of US Central Commands Urgent Requirement.
- 3) Letter Fleet Requirement for Hand Held Assay, Dry Filter Unit and Polymerase Chain Reaction Technology Biological Agent Detection Capability (ser N802) dated 18 Oct 2002.
- 4) Urgent Needs Statement, from the Director of the Joint Requirements Office of Chemical, Biological, Radiological and Nuclear Defense and addressed The Joint Staff, J-8A00054-03, dated 28 Mar 2003
- 5) Joint Biological Point Detection System/Dry Filter Unit Concept of Operations distributed by US Army Chemical School, dated January 2003.
- 6)CFFC Naval Message 142055Z MAR 03 SUBJ/BW AGENT DETECTION AND RESPONSE GUIDANCE.

b. Points of Contact

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The primary POC until June 30, 2004 is the fielding Manager. The primary POC after June 30, 2004 will be the Life Cycle Manager.

Fielding Manager (contact until 06/30/04) Life Cycle Manager (after 06/30/04)

Edward Lustig Kenneth Hall NSWC Dahlgren, VA NWC Crane, IN

c. Basis of Issue

1) Afloat

All ships will have 3 DFUs. Two are for operational use, and one is for redundancy.

- 2) Ashore
- Construction Battalions, Fleet Hospitals, Naval Coastal Warfare, Special Warfare, Emergency Medical Facilities, and Bases will have 3-7 DFUs.
- One is to be used as a spare or for internal monitoring.

Detailed BOI information, including issuance of consumables is provided in Attachment A, Table 1-1.

2. Equipment Description

a. **Physical Description**

The DFU1000 measures approximately 1 cubic foot and has two filter attachments, an electric cord and hose that attach for operation. It is equipped with a ½ hp regenerative blower designed to draw 1000 liters of air per minute through two 47mm diameter 1-micron filters. The basic components of the DFU are the regenerative blower, case, lid, power outlet, power cord, inlet stack, exhaust outlet, filter cartridges, and latch. The ruggedized portable unit weighs approximately 42 lbs and the carrying case measures 13" X 13" X 15". The DFU uses 110/220 volt A/C at 50 or 60 HZ electrical power. Adaptor plugs provide for operation outside the United States. When used with DFU-1000 and 230 VAC power cord, the plug set allows for operation in over 184 countries.

The DFU-1000 is used in conjunction with consumable items: Hand Held Assays (HHAs), DFU kits, Saf-T-Pak shippers, hype-wipes, and swabs. In the initial fielding the shipper, wipes and swabs were provided with other consumables in a Biological Response Bag (BRB). Small, portable refrigerators are also provided to ships to store the HHAs.

DFU Kit

The DFU kit includes consumable items need to collect particle samples and conduct a test. The items provided in a sealed plastic bag are: disposable rubber gloves, filter, conical tube with buffer solution, whirl bag, pipette and parafilm. They come in boxes of 50.

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HHAs

The Hand Held Assays (HHAs) are provided separately. The HHAs are provided with a plastic case to hold eight tickets. Each ticket tests for an agent, identified by a code, as the actual agent is classified. HHAs need to be kept at a constant temperature to ensure maximum shelf life and effectiveness. They may be stored for 2 years if refrigerated or for 1 year if kept at a constant temperature, avoiding temperature cycling. The date of assembly is on the outside package, and expiration may be calculated from this date. HHAs come in packages of 10 that are then usually packed into a larger box for shipment. Note that HHAs are considered sensitive items and all panels must be properly accounted for.

BRBs/Shippers

Biological Response Bags were first provided by the medical teams and distributed by NSWC Dahlgren to ships entering the field for Iraqi Freedom. The bag contained: Saf-T-Pak shippers, swabs, bleach hype-wipes, paper towels, ziplock bags, and tape. Due to the cost of assembling and distributing the bags, they are being discontinued. The shippers, wipes and swabs will continue to be distributed separately. Other items are common and may be found onboard. Saf-T-Pak shippers are sensitive agent, insulated cardboard shippers that come with a cardboard coil and labels. They are packed 12 in a box. Hype-wipes are premoistened wipes with a bleach solution used to clean a contaminated area. Swabs are cotton tipped sterile swabs. They come 2 in each envelope, in packs of 100.

Refrigerators

GE Spacemakers TM were initially provided to hold the HHAs to extend the shelf life. The refrigerators issued were 4.3 Cu. Ft. Capacity Compact Refrigerators, weighing 77lbs with electrical requirements for 120V/60Hz; 15 amps. An item that is already in the stock system has been found. Future order/replenishments will be filled with Whirlpool 4.2 Cu. Ft capacity refrigerators. This item is being added to a new CBR AEL.

(Refer to Attachment B, Tables 2-1, 2-2, and 2-3 for item details)

b. <u>Functional Description</u>

Air Sampling

The DFU 1000 and related consumables are intended to provide presumptive biological agent identification and allow for confirmatory sampling. The DFUs function is to draw air though the inlet, capture any airborne particles onto the 1-micron filters, and then exit the filtered air through the unit exhaust. As the unit is operated for a longer period of time, more particles are collected thus increasing the probability of BW agent detection in otherwise clean air. If a biological agent in an aerosol cloud is highly concentrated a short collection time is sufficient to collect a sample that could be identified by the HHA. If a biological agent in an aerosol cloud is diluted, a longer collection time is needed to collect a sample that can be detected by the HHA. Since the concentration of agent in a BW attack is unknown, longer collection times are generally advised when operating in clean or normal air conditions, unless otherwise instructed.

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*NOTE: When filters are excessively dirty, the likelihood of inconclusive results increases. Experience has shown that very dirty filters may make it harder to detect an agent because the positive line may be faint. False positives also increase when filters are very dirty. To optimize correct identification by HHAs, the DFU should be used in areas where air will not be filled with common pollutants, such as seaspray or exhaust. If in an environment where ambient air is particularly dusty or dirty, filters may require more frequent changing for optimal reading of the HHAs. Example: if in a desert area with very dusty air, filters may be changed 2-4 hours less than ordinary recommended for the appropriate threat mode (see below).

*NOTE: Certain geographical areas may contain ordinary contaminants (such as camel pox in the middle east), which may cause faint positive results. Operators should be aware of and note any ordinarily existing ambient agent that may affect results.

Surface Sampling

If surface sampling is required, the swabs may be used for collection of surface particles. Surface collection may be advised for mailrooms or areas of suspected contamination where surface concentration of an agent would be sufficient for detection. Procedures would then follow as stated for air samples.

Preparation of the Sample

After sufficient collection time the filter(s) or swab(s) are removed and deposited in the tube with buffer solution and shaken so the solution absorbs the particles. The pipette is used to extract the sample solution. Gloves and other protective gear may be worn at this time.

The HHAs allow the tester to deposit drops to each assay ticket. Each ticket allows for presumptive testing on an agent. All results are read after 15 minutes, with a red line indicating positive. Positive results may be enclosed in whirl bag and sent to lab for further testing and final identification results. The HHAs have a code on each ticket so that the identity of the agent remains classified.

Positive or Inconclusive Results

If HHA results are positive or inconclusive for any agent, medical personnel will be notified and one or more additional HHA analyses of the solution will be performed. The original sample is to be in buffer solution and follow-up specimen is to be placed n the whirl bag. Both are then to be properly packaged and transported to a Navy confirmatory laboratory located on all large deck ships. In addition, medical personnel shall immediately contact the Naval Medical Research Center/Biological Defense Research Directorate that a HHA is presumptive positive. POC information is shown below:

NAVAL MEDICAL RESEARCH CENTER, BDRD/ WATCH STANDER
PAGER NUMBERS/ PRIMARY/877-243-1528/ SECONDARY/877-243-1531/STU
III/DSN 285-7509/COM: 301-319-7509/EMAIL: NIPR:
BDRDBW(@)NMRC.NAVY.MIL/CLASSIFIED MESSAGE

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TRAFFIC/NAVMEDRSCENTER
SILVER SPRING MD/NMRC OFFICER OF THE DAY/DSN 285-9053/COM:

301-526-1649/INFORM THE NMRC OOD THAT YOU NEED THE BDRD WATCH

STANDER PAGED/PROVIDE CONTACT INFORMATION TO THE OOD/

The Saf-T-Pak shippers are FDA approved shippers that are safe for protection of biological agents. These shippers would be used to send samples away for confirmatory testing.

(Refer to Facilities, Section 12, for details on gold standard labs)

3. Operational Concept

a. Employment

The unit is used in times and places of high threat, including:

- 1) All Ships:
- Quarterdeck area when entering foreign ports, or transiting straits or rivers
- Flight Deck or Helicopter Hangar in Foreign Ports or at Sea
- Mail Room while Overseas
- Decontamination Stations
- Collective Protective Shelter Fan Rooms
- Air Supply Intakes
- Although rugged, the DFU should be protected from excessive airborne particulate exposure, such as salt spray or aircraft exhaust.
- 2) Amphibious Ships:
- During Marine & Materiel On-Load
- Troop Passageways
- Well Deck Areas
- 3) Expeditionary Units:
- Around bases and sites
- Internal sampling of shelters and buildings
- Maximize perimeter coverage of site
- 4) Medical Facilities
- Hospitals
- Expeditionary Medical Facilities
- See Expeditionary Units
- 5) Shore Installations
- May be part of detection network or response team
- Placement patterns suggested are below: (Refer to Table 3 for illustrations)
 - o Dice Five pattern basic

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- o Circle pattern for unknown or med-high threat
- o Picket Line pattern when direction is known
- o Semi-Circle if direction is known, allows for moderate wind changes
- Dense Picket (Cornfield) hi density coverage for point source attacks (Refer to Attachment C, Table 3-1 for illustration of patterns)
- Separation Distance of units:
 - o General Dissemination: 400-600 meters
 - o Near Point source releases: 200 meters
 - o Line source and On-Target releases: 800 meters max
- DFUs may be used in conjunction with Joint Biological Point Detection System (JBPDS)

b. Concept of Operations (CONOPS)

Regardless of platform, the DFU/HHA will be used to provide: 1. periodic environmental air sampling and 2. environmental air sampling at the scene of a suspected incident. The unit can be run continuously during the high threat condition/period with filters removed, replaced and testing done at 12 hour intervals (maximum). When multiple DFUs are used, the sampling cycles may be staggered in so that one operational unit is tested at 6 hours and the other at 12hours. Filters are replaced at 18 hours and 24 hours. An Example is provided below:

Collect and Test Filters from DFU#1 at 1200 and 2400 Collect and test Filters from DFU#2 at 0600 and 1800 Provides 6-hour window for obtaining results.

Time line

Collect (1-12 hours)
Prepare Sample (2 minutes)
Presumptive Results (15 minutes)

High Threat Operational Guidance

In times of high threat, the DFU-1000 may be used to sample more often, as directed (but not less than 15 minutes) for rapid determination of bio threat and to enable maximum treatment.

Four additional operational modes have been developed for high threat situations. The HT Modes and guidance are provided below.

High Threat Operational Modes

I – Area of Known or Suspected biological Threat (MOPP I / ThreatCon A)

II – Area of Known or Possible Biological Threat (MOPP II / ThreatCon B)

III - Biological Attack Probable (MOPP III / ThreatCon C)

IV - Biological Attack Imminent/Post Attack/Decon (MOPP IV / ThreatCon D)

(Refer to Attachment D, Table 3-2 and 3-3 for details on Operational Modes)

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4. Maintenance Concept

The DFU is a Non-Developmental Item (NDI) with limited maintenance requirements. There is no organizational or intermediate level maintenance. Items have been sent back to the depot for replacement. This was deemed acceptable by the JPEO due to the high reliability and relatively low cost of the item, and the high cost of sparing/repairing.

HHAs, DFU kits, BRBs and shippers/swabs are consumable items. The HHAs and DFU kits are pharmaceutical items. HHAs have a limited shelf life and are also considered sensitive items, so they must be tracked and properly accounted for.

5. Interim Support - IMPORTANT

The DFU system was fielded with Defense Emergency Relief Funds (DERF). Items have been provided as free issue stock. These items must be fully expended before reordering from regular stock. APL 46A040018 applies. Please note that the requestor must provide name and contact information to ensure a timely response.

(Refer to Attachment E, Table 5-1 Free Issue APL Process Outline)

After this stock has been depleted, items will be provided by the JPEO through the Navy Item manager. Relevant NSN and reorder information is available in Attachment B, in Tables 2-1, 2-2, and 2-3.

6. Technical Documentation

Neither a Performance Specification (PS) nor Purchase Description (PD) has been or will be developed.

<u>Configuration Management</u>. Items are to be bar coded with part number, CAGE code, date of manufacture, and either serial number, lot number or both.

<u>Technical Manual</u>. The PEO CBD provides a technical manual, which includes a Preventive Maintenance Checks & Services (PMCS) Table. A Navy-tailored Operational Manual and Refresher Training are on a CD that is provided to the fleet. The latest edition is dated August 2003. In addition the vendor provides training cards to be used for set-up, collection of samples and recovery. Reorder information is in Attachment B, Table 2-2.

7. Support Equipment

No Support Equipment has been identified. Tools required to support operation and maintenance are identified in the operation manual.

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8. Training Courses

a. Training Concept

Navy Training Systems Plan Only part one of the Navy Training Systems Plan (NTSP) will be developed. The DFU is relatively easy to learn to operate. To the maximum extent possible personnel currently trained and using the DFU will be used to prepare training and lesson plans and conduct limited training. The training classes include Initial and Key Personnel, New Equipment Trainers and institutional trainers.

<u>Initial & Key Personnel Training</u>. Initial and Key Personnel Training (I&KPT) conducted as necessary for designated personnel.

<u>New Equipment Training</u>. New Equipment Training (NET) will be provided to the gaining unit during the fielding of equipment. All training and lesson plans will be delivered to the gaining unit at the conclusion of the training.

b. <u>Institutional Training</u>.

Institutional training is currently in place. Train the Trainer curriculum has been developed and a refresher CD for DFU/HHA set up, use, maintenance and disposal is also provided.

(Refer to Attachment F, Table 8-1 Training Pipelines and 8-2 Student Profiles)

c. On-Board Training

Shipboard Training. Shipboard training conducted by unit training teams, is composed of shipboard personnel. These teams conduct training to establish and maintain proficiency, both as a unit and within multiple unit groups, in all mission areas.

- 1). Initially, the Afloat Training Group (ATG) conducts training for the shipboard training teams, including the Damage Control Training Team (DCTT). At the beginning of the training cycle, the DCTT is trained by the ATG.
- 2). The shipboard training teams then conduct the Command Assessment of Readiness and Training (CART) and the subsequent Tailored Ship Training Availability's (TSTA) to prepare the ship for the Final Evaluation Period (FEP) required prior to group exercises leading to deployment.
- 3). The unit conducts intermediate training with its assigned deployment group to prepare for Composite Training Unit Exercises (COMPTUEX) prior to deployment. During deployment the unit participates in advanced training leading to Fleet Exercises and conducts repetitive training to sustain operational effectiveness.

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9. Personnel

a. Manning Concept

The DFU will require no manpower growth. It will not require new Navy Enlisted Classifications (NEC) or increase in physical or cognitive requirements for operators, maintainers, repairers, or support personnel. The Navy does not have a unique NEC for Nuclear, Biological, and Chemical (CBR) operations. Operation and maintenance will be an additional duty to designated personnel.

<u>Afloat Forces</u>. The ship's Damage Control Assistant, or other designated individual, will be responsible for maintaining, operation and training assistant operators.

<u>Ashore Forces</u>. The Chemical/Biological Reaction Team will be responsible for maintenance, operation and training assistant operators.

b. <u>Personnel Qualification Standards (PQS)</u> The following PQS for damage control and CBR-D is currently available to assist in on-board watch qualifications. PQS is updated as new CBR-D systems/equipment are introduced for Fleet use.

PQS Title	NAVEDTRA Number
Damage Control	43119-G
Damage Control Watches	43119-4D

10. Software Support - N/A

11. Facilities

JPEO Facilities

Rock Island is the location of the storage facilities for items managed by Army for JPEO, including DFU 1000 and DFU kits. HHAs are managed by the Critical Reagents Program, which orders direct from the manufacturer to ensure optimal shelf life.

Navy Fleet Hospitals

DFUs and related items have been fielded to Naval Hospitals in Bremerton, Pensacola, and Portsmouth.

Confirmatory Laboratory

A confirmatory test lab may use various techniques to analyze the samples sent to them, including: microbiology, immunodiagnostics, and molecular diagnostics (DNA testing). Planning should identify the use of designated Navy confirmatory labs either afloat or ashore, other service labs, or other agency labs within the region designated by the Combatant Commander. Navy confirmatory labs are located on selected afloat and ashore units

The afloat labs may be located on aircraft carriers, amphibious ships, hospital ships, command ships, or other designated ships with a mission requirement. Ashore

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confirmatory capabilities are located at the Navy Medical Research Center (NMRC) Bio Defense Research Directorate (BDRD), Navy Environmental Preventive Medical Units (NEPMUs), and Forward Deployed Preventive Medical Units (FD-PMUs). Other services and agencies also operate confirmatory labs. The Navy confirmatory labs have a 24-hour a day technical reach-back capability with BDRD.

12. Safety

The DFU will be used for biological sampling. Appropriate care must be taken in all steps, in accordance with local SOP.

13. Environmental Impact

If a contaminant is suspected, the DFU, kit items, and HHAs should be handled appropriately. Negative results are still considered sensitive and in such a case the HHA, and kit items are to be treated as medical waste. In all cases items should be treated with care, in accordance with Standard Operating Procedures (SOP).

14. Warranty Provisions

<u>DFU</u> A 30 day warranty is provided for the DFU-1000 by the manufacturer, stating that supplies furnished will be free from defects in material and workmanship and will conform with all requirements of the contract. Any nonconformance must be reported in writing to ACS within thirty (30) days of the date it should have been discovered. If ACS determines that the nonconformance occurred as a result of ACS action, then ACS at its option, may correct the non-conformance at no additional charge to Customer or refund any monies paid to ACS by Customer under this Order. ACS warrants that it will perform services in a professional and workmanlike manner.

- 15. Licensing Provisions N/A
- 16. Data Rights N/A
- 17. Infrastructure Support Requirements N/A

Attachments

Table 1-1 Basis of Issue under Iraqi Freedom

spare spare e c c c c spare spare spare	DETE	DETI Lite	DEII Lite Onorational	Training	Rage	Training Rage Refrigeratore
4 active, 1 spare 400 2 active, 1 spare 200 5 per site 500 3 active /FOB 300 5 active/site 500 5 active 1 spare 500 2 active 1 spare 300 3 per site 200		Dr. C. Kits	HHAs	HHAs	200	
2 active, 1 spare 5 per site 3 active /FOB 5 active/site 5 active, 2 spare 7 2 active 1 spare 3 per site	(LHA)	400	400	0	5	3
5 per site 3 active /FOB 5 active/site 5 active, 2 spare 7 2 active 1 spare 3 per site		200	200	0	ဇ	-
3 active /FOB 5 active/site 5 active, 2 spare 7 2 active 1 spare 3 per site		500	200	0	ည	0
5 active/site 5 active, 2 spare 7 2 active 1 spare 3 per site		300	300	0	3	-
5 active, 2 spare 2 active 1 spare 3 per site	Ð	200	200	0	5	0
2 active 1 spare 3 per site		200	200	0	5	0
3 per site		300	300	0	3	0
		200	200	0	3	0
Training Schools/Courses 2 25	s/Courses 2	52	0	25	+-	0

THIS TABLE REFLECTS FIELDING UNDER IRAQI FREEDOM. Bags are being eliminated. Swabs, shippers and additional labels will be supplied separately to keep the cost to fleet low.

CURRENT BOI HAS BEEN STANDARDIZED FOR ALL SHIPS. All ships are now to receive the following:

2 active and 1 spare DFU,

200 DFU kits,

200 HHAs,

200 swabs

12 shippers, 1 package extra labels

1 refrigerator

Table of Allowances are being developed in conjunction with the Naval Facilities Engineering Command (NAVFAC). Final BOI reflected in the TOA may differ from initial fielding.

USER'S LOGISTICS SUPPORT SUMMARY REPORT Table 2-1 APL Items

	NSN	CAGE	Part No.	Manufacturer	Cost
DFU	4240-01-510-8315	55162	DFU1000	ACS Defense	\$1200 ea
DFU KIT	6665-01-515-8343	55162	DFU-A-17	ACS Defense	\$451.00/50
Operational HHA	Operational HHA 6665-01-504-8534	55162	D12	ACS Defense	\$375/10
Training HHA	6665-01-504-8535	55162	D13	ACS Defense	\$375/10

For Ordering, FIRST use APL 46A040018 for free issue stock. When this stock has been depleted, reference APL: 46A030024

Table 2-2 AEL Items

	NSN	CAGE	Part No.	Manufacturer	Cost
Hype-Wipes	7930-01-423-3699	490M0	9103	ODC Inc	\$62.17
Refrigerator	4110-01-482-2584	0KBG0	ELOSCCXJW	Whirlpool	\$207.09
Training CD	2SM000-LL-CYB-4827	00178	DFU101	Dahlgren	current free issue

Hype Wipes and Refrigerators are currently in the supply system and are being added to a CBR-D AEL. Note: You must reference the part # when ordering the refrigerator.

Table 2-3 Additional Items- GSA Order Information

	Mfr. Part #	Contractor	Unit Price	Minimum Order
Sterile Cotton Swabs	PUR-8062	ODC Inc	\$10.23	\$100.00
STP 100 Ambient Shippers	STP 100	Saf-T-Pak	\$156.51	\$100

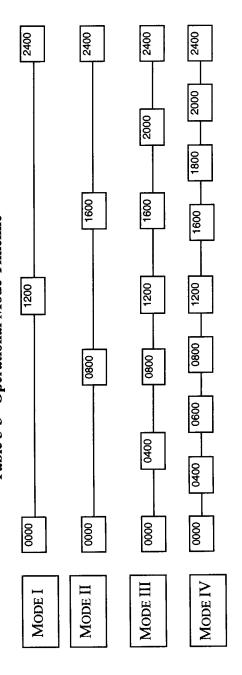
Swabs, Shippers and extra labels are currently being assigned NSNs. They will then be added to a new CBR-D AEL. Currently they may be directly ordered through the GSA Global Supply System. Access is available through the website https://www.gsaadvantage.gov

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Table 3-2 Comparison of Operation by Mode

	1	П	III	IV
DFUs Employed	1		1	-
Frequency (Mean Time Between Sampling Cycle)	12 hrs	8 hrs	4 hrs	2 hrs
Collection Time	12 hrs	8 hrs	4 hrs	2 hrs
Number of Samples per day	2	3	9	12
Total Number of HHAs/DFU kit/day	2	3	9	12

Table 3-3 Operational Mode Timeline



unclassified -

Fable 5-1 Free Issue Process Outline

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Prepare email or naval message, using the 80 card column requisition format.

RIC should be N35 for NAVICP- Mechanicsburg

For Fund Code, in the 52 and 53 positions, enter Y6 for Free Issue

For COG, in the 55 and 56 positions, enter 2S for Free Issue

Please enter ship address in Supplementary Address field.

Send message ATTN Dale Sweigard, with Ed Lustig and Laurel Shay on copy. Contact info below:

ph: 717-605-6885 email: dale.sweigard@navy.mil Dale Sweigard

ph: 540-653-7418 email: lustigEA@nswc.navy.mil Ed Lustig

ph: 717-605-4723 email: laurel.shay@navy.mil Laurel Shay

Reference APL 46A040018 in the subject line.

SAMPLE EMAIL:

To: dale.sweigard@navy.mil

Cc: lustigea@nswc.navy.mil; laurel.shay@navy.mil

Subject: DFU REQUISITION - APL 46A040018

A0A-N35-S-4240-01-510-8315- - EA-00002-N00383-4098-1234-Y -A-Y6-2S-9GF-03-999-

unclassified -

Table 8-1 Training Pipelines

Damage Controlman NEC 4805	Damage Controlman NEC 4811	Damage Control Assistant NOBC 9308
DC "A" School (A-495-2060) 54 Davs	DC "A" School (A-495-2060) 54 Days	Surface Warfare Officer School: Division Officer
SERVSCOLCOM Great Lake, IL	SERVSCOLCOM Great Lake, IL	Course: (SWODOC) 119 days SWOSCOLCOM, Newport, RI
Damage Control Repair Party (K-495-0040) 12 Days Fleet Schools	Damage Control Repair Party (K-495-0040) 12 Days Fleet Schools	General Shipboard Firefighting (J-495-0412) 1 Day Fleet Schools
CBR-D Operations and Training Specialist (A-495-2062) 19 Days (E5 and Above) NCTC Det. Ft Leonard Wood	CBR-D Operations and Training Specialist (A-495-2062) 19 Days (E5 and Above) NCTC Det. Ft Leonard Wood	SWO DCA (A-4G-0020) 47 Days SWOSCOLCOM Newport, RI
	Senior Enlisted DC (A-495-2055) 49 Days (E6 and Above) FTC, San Diego, CA	

Table 8-2 Student Profiles

Source Rating	Prerequisite Skill	Knowledge Requirements	NOBC/NEC
DCA	SWO DCA School	Chemical Warfare	8086
DC	CBR-D Operations	Chemical Warfare	4805